

Title (en)

MULTI-COMPONENT COPOLYMER, RUBBER COMPOSITION, AND TIRE

Title (de)

MEHRKOMPONENTIGES COPOLYMER, KAUTSCHUKZUSAMMENSETZUNG UND REIFEN

Title (fr)

COPOLYMÈRE MULTICOMPOSANT, COMPOSITION DE CAOUTCHOUC ET PNEU

Publication

EP 3156429 A4 20170628 (EN)

Application

EP 15806248 A 20150603

Priority

- JP 2014121722 A 20140612
- JP 2015002816 W 20150603

Abstract (en)

[origin: EP3156429A1] Provided is a polymer that contributes to the improvement of the durability and weather resistance of rubber compositions or rubber products such as a tire, and has low crystallinity. Disclosed is a multicomponent copolymer comprising a conjugated diene unit, a non-conjugated olefin unit, and an aromatic vinyl unit, wherein the multicomponent copolymer has a main chain consisting only of an acyclic structure, and the content of cis-1,4 bonds in the entire conjugated diene unit is 50% or more.

IPC 8 full level

C08F 236/04 (2006.01); **B60C 1/00** (2006.01); **C08F 210/12** (2006.01); **C08F 236/10** (2006.01); **C08L 9/06** (2006.01)

CPC (source: EP RU US)

B60C 1/00 (2013.01 - EP RU US); **B60C 1/0016** (2013.01 - RU US); **C08F 210/02** (2013.01 - EP US); **C08F 210/12** (2013.01 - RU); **C08F 236/04** (2013.01 - RU); **C08F 236/10** (2013.01 - EP RU US); **C08L 9/06** (2013.01 - EP RU US)

C-Set (source: EP US)

1. **C08F 236/10** + **C08F 210/02** + **C08F 212/08**
2. **C08F 236/10** + **C08F 212/08** + **C08F 210/02**
3. **C08F 210/02** + **C08F 212/08** + **C08F 236/10** + **C08F 2500/03**
4. **C08F 210/02** + **C08F 236/10** + **C08F 212/08** + **C08F 2500/03**
5. **C08F 210/02** + **C08F 4/545**

Citation (search report)

- [IA] US 4779657 A 19881025 - CHEUNG SEUNG T [CA], et al
- [IA] US 2438340 A 19480323 - JOHNSON HERBERT L
- [IA] GB 1349381 A 19740403 - CESKOSLOVENSKA AKADEMIE VED
- [IA] US 2479450 A 19490816 - YOUNG DAVID W, et al
- [I] US 7294664 B2 20071113 - JONES GLENN EDWARD [US], et al
- [I] US 3910865 A 19751007 - OSBORN ROBERT A, et al
- [AP] EP 2824120 A1 20150114 - BRIDGESTONE CORP [JP]
- See also references of WO 2015190072A1

Cited by

EP3763756A4; US10920003B2; EP3725840A4; EP3725841A4; EP3950722A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3156429 A1 20170419; **EP 3156429 A4 20170628**; **EP 3156429 B1 20190123**; CN 106459310 A 20170222; CN 106459310 B 20190705; JP 2020045500 A 20200326; JP 6657082 B2 20200304; JP 6947801 B2 20211013; JP WO2015190072 A1 20170420; RU 2647594 C1 20180316; US 10030092 B2 20180724; US 2017137552 A1 20170518; WO 2015190072 A1 20151217

DOCDB simple family (application)

EP 15806248 A 20150603; CN 201580031384 A 20150603; JP 2015002816 W 20150603; JP 2016527626 A 20150603; JP 2019225633 A 20191213; RU 2016148740 A 20150603; US 201515317548 A 20150603